

REMARKS

Claims 1-7 and 18-23 are pending in the application. Claims 18-23 have been added by this amendment. As required by 37 CFR § 1.121, Applicants submit a version with markings showing changes to the application. In light of the amendments and following remarks, Applicants believe all the pending claims are now in condition for allowance.

Claims 1-7 were rejected under 35 USC § 112, second paragraph, that the disclosure is allegedly not enabling of the claims. More specifically, the Office Action stated that there is allegedly no disclosure of “negative controls that are to be used to select complementary segments for specific probes.” Applicant respectfully traverses the rejection.

Initially, Applicant does not see that these “negative controls” are in the claims. Claim 1 recites that an array of oligonucleotide probes comprises a detection blocks of probes. Detection blocks of probes are described at, for example, page 9, lines 28-37. Claim 1 also recites that a first group of probes includes probes that are complementary to a target sequence and include monosubstitutions. Support for these features can be found, for example, on page 10, lines 1- 15. Claim 1 also recites second and third groups of probes that are complementary to marker-specific upstream and downstream regions of the polymorphism of the target nucleic acid sequence. Support for these features can be found on, for example, page 10, lines 16-32 and Fig. 2B. In a sincere effort to expedite prosecution, Applicant has amended claim 1 to recite that the that the first and second groups of probes are upstream and downstream of the polymorphism in the target nucleic acid sequence.

The Office Action states the disclosure is enabling for arrays of probes that are complementary to the target nucleic acid sequence. The probes that are recited in claim 1 are complementary to the target nucleic acid sequence, except for that position(s) that are specified in the claim. Therefore, the specification does enable the claims and the rejection that the specification does not teach “negative controls” should be withdrawn.

Claims 1-7 were rejected under 35 USC § 102(a) as allegedly being anticipated by “Using Oligonucleotide Probe Arrays To Access Genetic Diversity,” by Lipshutz et al. (hereinafter “the Lipshutz article”). Accordingly, it is being asserted that the Lipshutz article teaches all the features of the claims. For the following reasons, Applicant respectfully traverses the rejection.

Applicant agrees that the Lipshutz article discloses pioneering technologies, however, the Office Action has not demonstrated a prima facie case of anticipation. The Office Action has not shown where the Lipshutz article teaches the second and third groups of probes as claimed. For example, claim 1 recites as follows:

a second and third group of probes complementary to marker-specific regions upstream and downstream of the polymorphism in the target nucleic acid sequence, wherein the third group of probes differs from the second set of probes at single bases corresponding to known mismatch positions.

The Office Action has not shown where the Lipshutz article discloses the second and third groups of probes that are complementary to marker-specific regions upstream and downstream of the polymorphism in the target nucleic acid sequence as claimed. Therefore, a prima facie case of anticipation has not been established.

Claims 1-7 were rejected under 35 USC § 102(b) as allegedly being anticipated by "Analyzing and Comparing Nucleic Acid Sequences by Hybridization to Arrays of Oligonucleotides: Evaluation Using Experimental Models," by Southern et al. (hereinafter "the Southern article"). Accordingly, it is being asserted that the Southern article teaches all the features of the claims. For the following reasons, Applicant respectfully traverses the rejection.

The Office Action cites the Southern article as showing image processing techniques for rapid analysis of mutations (e.g., citing Fig. 4). Even assuming that this is correct, claim 1 does not recite image processing techniques. Claim 1 recites an array of oligonucleotide probes with the specific features in the claims such as the second and third group of probes that are quoted above. As the Office Action has not shown where the Southern article teaches these features, a prima facie case of anticipation has not been established.

Conclusion

For the foregoing reasons, Applicant believes all the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 446-8693.

Respectfully submitted,



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